

WHAT IS CLAIMED IS:

1. An optical pointing system comprising:

an image sensor for detecting light reflected from a worktable surface to
5 generate an image signal;

a maximum search window variable circuit for inputting at least one of
the image signal and a movement value to change a size of a maximum search
window; and

a sensor circuit having a movement value calculation circuit for
10 calculating the movement value of the image signal using the changed
maximum search window in size.

2. The optical pointing system of claim 1, wherein the sensor circuit
further comprises a sampling rate variable circuit for inputting at least one of the
15 image signal and the movement value to generate a sampling rate control
signal for changing a sampling rate.

3. The optical pointing system of claim 2, wherein the sampling rate
variable circuit comprises:

20 a light quantity detector for inputting the image signal inputted from the
image sensor to detect a quantity of light;

a movement speed detector for inputting the movement value inputted
from the movement value calculation circuit to detect a movement speed; and

a sampling rate calculation circuit for calculating the sampling rate

according to at least one of the detected quantity of light and movement value to generate the sampling rate control signal.

4. The optical pointing system of claim 2, wherein the sensor circuit
5 further comprises an A/D converter circuit for converting an analog signal outputted from the image sensor into a digital signal and outputting the digital signal to the maximum search window variable circuit and the movement value calculation circuit.

10 5. The optical pointing system of claim 3, wherein the sensor circuit further comprises an interface circuit for storing the movement value outputted from the movement value calculation circuit at the sampling rate changed in response to the sampling rate control signal and transmitting the movement value to a computer at a predetermined report rate.

15 6. The optical pointing system of claim 2, wherein the maximum search window variable circuit calculates the maximum search window at the sampling rate changed in response to the sampling rate control signal.

20 7. The optical pointing system of claim 2, wherein the movement value calculation circuit calculates the movement value at the sampling rate changed in response to the sampling rate control signal.

8. The optical pointing system of claim 3, wherein the maximum search

window variable circuit comprises a maximum search window calculation circuit for adjusting the size of the maximum search window according to the detected quantity of light and movement speed outputted from the light quantity detector and the movement speed detector.

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9. The optical pointing system of claim 8, wherein the maximum search window variable circuit adjusts a size of a mask window according to the quantity of light and the movement speed.

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10. The optical pointing system of claim 3, wherein the sensor circuit further comprises a clock control circuit, including:

a dividing circuit for dividing a reference clock signal to generate a predetermined number of clock signals having different frequencies from each other; and

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a selection circuit for selecting one clock signal among the clock signals in response to the sampling rate control signal,

wherein the sampling rate is changed in response to one clock signal outputted from the selection circuit.

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11. The optical pointing system of claim 3, wherein the sensor circuit further comprises a phased locked loop for generating a clock signal for changing the sampling rate in response to the sampling rate control signal.

12. An optical pointing system comprising:

an image sensor for detecting light reflected from a worktable surface to generate an image signal;

a sampling rate and maximum search window variable circuit for inputting at least one of the image signal and a movement value to generate a sampling rate control signal for changing a sampling rate, and to change a size of a maximum search window; and

a sensor circuit having a movement value calculation circuit for responding to the sampling rate control signal and calculating the movement value of the image signal using the changed maximum search window.

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13. The optical pointing system of claim 12, wherein the sampling rate and maximum search window variable circuit comprises:

a light quantity detector for inputting the image signal inputted from the image sensor to detect a quantity of light;

15 a movement speed detector for inputting the movement value inputted from the movement value calculation circuit to detect a movement speed;

a sampling rate variable circuit for generating the sampling rate control signal for changing the sampling rate in response to at least one of the detected quantity of light and movement speed; and

20 a maximum search window calculation circuit for calculating and outputting the maximum search window in response either to at least one of the detected quantity of light and movement speed, or to the sampling rate control signal.

14. The optical pointing system of claim 12, wherein the sensor circuit further comprises an A/D converter circuit for converting an analog signal outputted from the image sensor into a digital signal and outputting the digital signal to the maximum search window variable circuit and the movement value calculation circuit.

15. The optical pointing system of claim 12, wherein the sensor circuit further comprises an interface circuit for storing the movement value outputted from the movement value calculation circuit at the sampling rate changed in response to the sampling rate control signal, and transmitting the movement value at a predetermined report rate.

16. A method for calculating a movement value of an optical pointing system, the method comprising the steps of:

15 detecting light reflected from a worktable surface to generate an image signal;

changing a sampling rate and a maximum search window for inputting at least one of the image signal and the movement value to generate a sampling rate control signal for changing a sampling rate, and to change a size of the maximum search window; and

calculating the movement value for responding to the sampling rate control signal and calculating the movement value of the image signal using the changed maximum search window.

17. The method of claim 16, wherein the step of changing the sampling rate and the maximum search window comprises the sub-steps of:

detecting a quantity of light for inputting the image signal inputted from an image sensor to detect the quantity of light;

5 detecting a movement speed for inputting the movement value to detect the movement speed;

generating a sampling rate control signal for generating the sampling rate control signal for changing the sampling rate in response to the detected quantity of light and movement speed; and

10 calculating the maximum search window for calculating and outputs the size of the maximum search window in response to any one of the detected quantity of light and movement speed, and the sampling rate control signal.

18. The method of claim 17, wherein the step of changing the sampling rate and the maximum search window further comprises the step of:

calculating a mask window for calculating and outputting a size of the mask window in response to any one of the detected quantity of light and movement speed, and the sampling rate control signal.

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